

## ABSTRACT OF THE DISCLOSURE

A transmitting apparatus, receiving apparatus, communication system, and a signal processing method for each apply a suitable modulation method and transmission path estimation method in accordance with the characteristics of the transmission information and capable of improving the transmission efficiency. At the transmission side, the method of estimation of the transmission path and the modulation method are selected in accordance with an attribute of the data to be transmitted, for example, the size of a packet to be transmitted, the transmission data is mapped by the selected modulation method, the signal is processed in accordance with the transmission path estimation method, and a transmission signal is created by increase fast Fourier transform processing and transmitted. At the reception side, the received signal is fast Fourier transformed, the transmission path is estimated by the transmission path estimation method selected at the transmission side, the received signal is corrected in accordance with the result, and the received data is reproduced in accordance with the modulation method. Therefore, it is possible to always adopt the optimum transmission method in accordance with the attribute of the transmission data etc. and possible to realize an improvement of a transmission efficiency and an enhancement of the quality of communication.